

WHAT IS CLAIMED:

1. A method of controlling a turbine/alternator comprising a gas driven turbine and permanent magnet alternator on a common shaft comprising:

providing electric power to said turbine/alternator through an inverter circuit to start said turbine/alternator to achieve self-sustained operation of said turbine/alternator; and

reconfiguring said inverter circuit to output electric power from said turbine/alternator to a load when self-sustained operation of said turbine/alternator is achieved,

wherein the electric power is measured during outputting the electric power from said turbine/alternator to compensate for output voltage fluctuations.

2. The method of claim 1, wherein the voltage of the electric power is measured during outputting of electric power.

3. The method of claim 2, wherein the voltage of the electric power is continuously measured during outputting the electric power.

4. The method of claim 1, wherein said inverter circuit comprises an inverter and a signal generator, and signals are sent to said generator to compensate for output voltage fluctuations.

5. The method of claim 1, wherein during providing electric power to said turbine/alternator, controlled combustion of fuel and air is provided to said gas driven turbine of said turbine/alternator.

6. The method of claim 1, wherein when reconfiguring said inverter circuit, said inverter circuit is connected to said turbine/alternator through a rectifier.

7. The method of claim 1, wherein said inverter circuit comprises an output filter for filtering said electric power, and said output filter is removed when providing electric power to said turbine/alternator through said inverter circuit.

8. An electric system for a turbine/alternator comprising a gas driven turbine and permanent magnet alternator on a common shaft comprising:

an inverter provided for operation of said turbine/alternator;
means to provide electric power to said turbine/alternator through said inverter to start said turbine/alternator to achieve self-sustained operation of said turbine/alternator;
means to reconfigure said inverter to output electric power from said permanent magnet alternator to supply the electric power to a load; and
a controller for measuring the electric power during outputting the electric power from said turbine/alternator to compensate for output voltage fluctuations.

9. The electric system of claim 8, wherein the voltage of the electric power is measured during outputting the electric power.

10. The electric system of claim 8, wherein the voltage of the electric power is continuously measured during outputting the electric power.

11. The electric system of claim 8, wherein said inverter circuit comprises an inverter and a signal generator, and said controller sends signals to said signal generator to compensate for output voltage fluctuations.

12. The electric system of claim 8, wherein said inverter circuit comprises an inverter and a signal generator, and said controller sends signals to said signal generator to compensate for output voltage fluctuations.

13. The electric system of claim 8, further comprising means to provide controlled combustion of fuel and air to said gas driven turbine to achieve self-sustained operation of said gas driven turbine.

14. The electric system of claim 8, wherein said means to reconfigure said inverter connects said inverter to said turbine/alternator through a rectifier.

15. The electric system of claim 9, wherein said load comprises a power line and said means to reconfigure said inverter supplies electric power to said power line at a common line voltage and frequency.

16. The electric system of claim 8, further comprising an output filter for filtering said electric power, which is removable when said means to provide electric power provides electric power to said turbine/alternator.